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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,745	05/20/2004	John Sherwood	57.0498 US NP	8579

37003 7590 07/31/2006

SCHLUMBERGER-DOLL RESEARCH  
36 OLD QUARRY ROAD  
RIDGEFIELD, CT 06877-4108

EXAMINER
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FULLER, ROBERT EDWARD

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/849,745	<b>Applicant(s)</b> SHERWOOD ET AL.	
	<b>Examiner</b> Robert E. Fuller	<b>Art Unit</b> 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-11,13,15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 3-7,12,14,16,20 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 8, 9, 13, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Levitan (US 6,059,040).

With regard to claims 1, 2, and 8, Levitan discloses an apparatus for “removal of the accumulated liquid phase from the bottom of [a hydrocarbon producing] well” (Abstract, lines 3-4). Levitan states that “it is an object of the present invention to avoid the use of artificial gas injection and to use the natural flow of gases to enhance the production of hydrocarbons from a subsurface wellbore” (column 1, lines 28-31). Levitan discloses a Venturi throat section (10) coupled with a production pipe (1) of a gas producing well. Production gas flows upwards through the throat section generates a low pressure zone, causing the fluids (H) to flow into the throat through passages (16) and upward into the production pipe. Levitan further discloses a discreet, straight conduit (11). The first end of the conduit is indirectly coupled with the throat section, and the second end will contact the fluid as the fluid flows upward into the throat. The liquids are located at an upstream location relative to the throat (column 5, lines 33-37).

The conduit provides a flow path (16) from the upstream location to the low pressure zone.

With regard to claim 9, the first end of the conduit terminates above a section of the constriction where the constriction has its smallest diameter.

With regard to claim 13, the constriction would have to be located above the gas producing zone, or else the apparatus would not function properly.

With regard to claims 17 and 19, Levitan discloses the method of using the claimed invention.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 10, 11, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levitan.

With regard to claims 10 and 11, Levitan fails to disclose the conduit terminating in or below a section of the constriction where the constriction has its smallest diameter.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Levitan so that the conduit terminated above or at the location where the constriction had its smallest diameter, because the applicant has not established the criticality of terminating the conduit at any specific location with regard to the diameter of the constriction, as evidenced by the fact that all three possible locations are described in the claims.

With regard to claim 15, Levitan fails to disclose the conduit having a length of more than 5 meters.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, that the conduit of Levitan could measure more than 5 meters in length, as the conduit would have needed to be whatever length was necessary for it to contain the throat section and properly define an annulus around the conduit to contain the liquids (H) to be removed from the well. Further more, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With regard to claim 18, Levitan fails to disclose the method of determining whether his device is capable of lifting the fluids to the desired height.

However, the determination of the gas flow rate, the height over which liquids have to be lifted to reach the low pressure zone, and the size of the constriction needed to create a low pressure zone capable of lifting liquids over the determined height are

calculations well within the knowledge and ability of one of ordinary skill in the art.

Therefore, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used the method steps of claim 18 to have determined the ability of the device of Levitan to lift liquids from the wellbore or to have used the method of claim 18 to have designed a fluid lift system similar to Hardie as the determination of the above values involves only routine skill in the art.

***Allowable Subject Matter***

5. Claims 3-7, 12, 14, 16, 20, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. In view of applicant's amendment, the objection to the drawings, and the objection to claim 15 has been withdrawn. The rejection of claims 4-8, 18, and 21 under 35 U.S.C. 112, second paragraph, has also been withdrawn.

7. Applicant's arguments with respect to claims 1, 2, 8, 9, 10, 11, 13, 15, and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3672

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

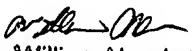
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Fuller whose telephone number is 571-272-0419. The examiner can normally be reached on Monday thru Friday from 8:00 AM - 5:30 PM. The examiner is normally out of the office every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

07/21/2006  
REF

  
William Neuder  
Primary Examiner